

## **TUNEL Assay Suggest Evidence of Apoptosis in Human *Burkholderia pseudomallei* Infection**

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Melioidosis is a disease caused by *Burkholderia pseudomallei*, an endemic gram-negative bacterium found in soil and surface water in South East Asia and Australia. It manifests a wide clinical spectrum, including abscess and granuloma formation, and acute septicaemia. In this study, we examined the association between this bacteria infection and apoptosis in inflamed human tissues using the TUNEL assay and activated caspase-3 immunohistochemistry (IHC). From a total of 10 cases that was studied, 7 autopsy cases were patients that died from acute septicaemic melioidosis while the 3 biopsies were from patients with localized/chronic melioidosis. All the cases showed TUNEL positive results in inflammatory cells but were negative for caspase-3 IHC. The results suggest an association between *Burkholderia pseudomallei* infection and apoptosis. However, the absence of caspase-3 suggests that apoptosis is independent of the caspase enzyme cascade. We conclude that apoptosis may be found in inflamed tissues in acute and chronic melioidosis. As far as we know, there is no published data on the association of apoptosis and human melioidosis. Further studies are needed to confirm this association.